

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

In the Claims

Please amend the claims as follows:

1. (Currently Amended) A microporous film manufactured by a process comprising the steps of:
  - a) molding a film with a mixed blend containing two or more [[of]] polyolefins by using a casting or film blowing;
  - b) ~~manufacturing a microporous film by~~ annealing and stretching the molded film; and
  - c) treating the surface of the film by irradiation with ionizing radiation either before or after [[the]] pore formation.
2. (Original) A microporous film in accordance with claim 1, wherein the mixed blend comprises two or more of polyolefin mixtures having a melting point difference of over 10°C.
3. (Original) A microporous film in accordance with claim 1, wherein the mixed blend comprises a mixture in which polypropylene having a high melting point and polyethylene having a low melting point are mixed in a weight ratio ranging from 1:9 to 9:1.
4. (Original) A microporous film in accordance with claim 1, wherein the surface treatment of irradiation with ionizing radiation is performed on one side or on both sides of the film.
5. (Original) A microporous film in accordance with claim 1, wherein the surface treatment irradiation with ionizing radiation improves the hydrophilicity and/or

mechanical properties of the film by irradiating energized ion particles on the film under a vacuum.

6. (Original) A microporous film in accordance with claim 1, wherein the surface treatment irradiation with ionizing radiation improves the hydrophilicity and/or mechanical properties of the film by the infusion of a reactive gas under a vacuum state by means of irradiating energized ion particles on the film.

7. (Original) A microporous film in accordance with claim 5 or claim 6, wherein one or more of ion particles are selected from a group consisting of electrons, hydrogen, oxygen, helium, fluorine, neon, argon, krypton, air, and N<sub>2</sub>O.

8. (Original) A microporous film in accordance with claim 6, wherein one or more of reactive gases are selected from a group consisting of hydrogen, oxygen, nitrogen, ammonia, carbon monoxide, carbon dioxide, carbon tetrafluoride, methane, and N<sub>2</sub>O.

9. (Original) A microporous film in accordance with claim 1, wherein the ionizing radiation is selected from a group consisting of ions, gamma ( $\gamma$ ) rays, plasma, and electron beams.

10-18. (Non-elected)

19. (Previously cancelled)

20. (Currently Amended): A separator in a microporous film in accordance with claim 1 used for a lithium ion secondary battery separator or alkali secondary battery comprising the microporous film according to claim 1 separator.